BDCP Independent Science Advisors Process
Proposed Advisor Workshops

The Facilitation Team proposes a series of Science Advisor engagements to solicit independent science advice for the Bay Delta Conservation Plan (BDCP) consistent with the Science Advisor Process presented to the BDCP Steering Committee on June 1, 2007.

Three engagements are proposed with each focused on a general topic area as follows:

1. Principles and Guidelines for Conservation
2. Analytical Tools and Assessment Techniques
3. Science Issues and Uncertainties Regarding the Selected Conservation Strategy

The first engagement would be targeted for the Summer of 2007. We propose that this engagement occur in at least two separate workshop settings given the volume of existing information and complexity of the project. Subsequent engagements would be scheduled for 2008. The exact timing of each engagement will depend on advisor availability.

Details associated with each proposed engagement are outlined in the tables below, including:

- a brief description of the engagement focus;
- example questions that would be developed to frame the discussion;
- areas of expertise that would be sought (specific individual advisors for each engagement will be identified once there is agreement on the focus and scope of each, including the questions to be addressed);
- proposed timeframe.

Principles and Guidelines for Conservation	
Description	Identify principles intended to form the scientific foundation for regional conservation planning, and define the bounds within which the ecological and conservation goals and objectives of BDCP may be achieved.
Workshops and Example Questions	**Workshop 1** ▪ **Species and Natural Communities** 1. Is the current list of species to be addressed by the plan comprehensive enough to achieve NCCP goals and requirements? 2. Are there effective ways of grouping species to assist in designing, managing, or monitoring the conservation plan (e.g., by species guilds or communities or by common responses to various conservation or management actions)? ▪ **Existing Data** 1. Does existing information present a firm scientific foundation for conservation planning and are there additional data sources or literature that should be considered? 2. What gaps in the existing information are most problematic for planning or assessing effects of conservation and management actions on species and communities? 3. What types of conceptual or analytical models might be used to fill information gaps and assess plan effects, and how can such models best be parameterized and tested? **Workshop 2** ▪ **Conservation Guidelines** 1. What ecological processes are most critical to maintaining ecosystem and species viability, and how can they be effectively accommodated in designing a conservation approach for this region? 2. How can long-term processes or cycles (e.g., population dynamics, disturbance cycles, ecological migration) be effectively addressed? 3. What effects might local or global climate changes have on this ecosystem and the target species, and how can these effects be effectively addressed? ▪ **Conservation Analyses** 1. What types of data can best be quantified (habitat acres, hydrological regimes, population sizes, species distributions, etc.) to analyze plan effects on target species and ecosystem processes? 2. What other issues must be addressed to confidently assess plan effects on species or ecosystem viability (e.g., effects on symbionts, competitors, mutualists, predators, population genetics, etc.)?
Areas of Expertise (identified by Steering Committee)	Pelagic Fish, Anadromous Fish, Terrestrial Ecology, Aquatic Ecology, Hydrology, Geomorphology, Ecotoxicology, Landscape Ecology, Invasive Species, Aquatic Foodwebs, Tidal Wetlands, Ornithology, Delta Operations and Water Quality Modeling, Population Modeling, Ecosystem Modeling, Aquatic Invertebrates, Estuarine Vegetation, Restoration Ecology.
Timeframe	Two days per workshop plus field trips August – September, 2007

Analytical Tools and Assessment Techniques	
Description	Provide advice to the BDCP Steering Committee regarding analytical tools and assessment techniques that could be used to evaluate the proposed conservation strategy option that is carried forward into the conservation planning process.
Example Questions	1. What analytical tools and assessment techniques are available and appropriate for evaluating the proposed conservation strategy option? 2. What are the strength and weaknesses of the different tools and techniques? 3. Are there examples where various tools and techniques been used elsewhere for similar decision making processes?
Areas of Expertise	Systems Analysis Delta Ecosystem Dynamics Water Resource Planning
Timeframe	One day Early 2008

Science Issues and Uncertainties Regarding the Proposed Conservation Strategy	
Description	Assess scientific foundation of the selected conservation strategy and address uncertainties regarding its likely effects on covered resources. Recommend actions to address uncertainties, including via the NCCP/HCP adaptive management and monitoring program.
Example Questions	1. What scientific assumptions underlying the proposed conservation strategy create the greatest uncertainties about plan effects on target resources? 2. Are there important scientific uncertainties that might limit the success of the conservation strategy? 3. What assumptions and uncertainties can be addressed before plan adoption using existing information?
Areas of Expertise	Combination of Workshop 1 and 2 with addition of new, previously not involved advisors as “fresh” eyes.
Timeframe	Early 2008 (when draft conservation strategy is available)

Adaptive Management and Monitoring	
Description	Recommend approaches and actions to address specific uncertainties, including via the NCCP/HCP adaptive management and monitoring program.
Example Questions	1. How might adverse effects of plan implementation on target resources be minimized via the adaptive management program? 2. What specific aspects of the environment should be monitored (e.g., species distributions, population sizes or trends, community diversity, water quality or flow dynamics, disturbance factors, invasive species)? 3. What assumptions and uncertainties can be addressed before Plan adoption through analysis of existing information or short-term research? 4. Are there approaches that could be employed to address Plan goals and objectives in the near-term while various Plan elements are being developed? 5. What specific monitoring protocols are necessary and sufficient to detect changes in species populations or processes?
Areas of Expertise	Combination of Workshop 1 and 2 with addition of new, previously not involved advisors as "fresh" eyes.
Timeframe	2008